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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/669,403 | 09/24/2003 | Viacheslav A. Petrov | UC0315 US NA | 5058 |

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E I DU PONT DE NEMOURS AND COMPANY
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WILMINGTON, DE 19805

| EXAMINER | |
|---|---|
| VIJAYAKUMAR, KALLAMBELLA M | |
| **ART UNIT** | **PAPER NUMBER** |
| 1751 | |
| **MAIL DATE** | **DELIVERY MODE** |
| 06/05/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/669,403 | PETROV ET AL. | |
| | Examiner | Art Unit | |
| | Kallambella Vijayakumar | 1751 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *15,22 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15,22- 23* is/are rejected.

7)☒ Claim(s) *23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

- A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/20/2007 has been entered.
- Claims 15, 22 and 23 as amended are currently pending with the application.

### *Terminal Disclaimer*

The terminal disclaimer filed on 03/20/2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of Sl. No. 10/669404 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### *Claim Objections*

Claim 23 objected under 37 CFR 1.75 as being a substantial duplicate of claim 15. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k)

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 15 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Babb et al (US 5,730,922).

The use of phrase "for depositing an active material on to a surface" in the claims have not been treated with patentability. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See In re Casey, 152 USPQ 235 (CCPA 1967) and In re Otto, 136 USPQ 458, 459 (CCPA 1963).

The prior art teaches a coating composition comprising: (a). Monomers/prepolymers of the structure $CF_2$=CF-X-R-(X-CF=$CF_2$)$_m$, wherein m=an integer from 1-3; X= O-atom or a perfluoroalkylene ether; and R=aromatic and substituted aromatic, with $C_1$-$C_{12}$ atoms and a molecular weight from 14-20,000; (b). barium ferrite or iron oxide or titania < semiconductor/active material>, and (c). a solvent, which are applied to a surface by either solution deposition or Langmuir-Blodgett technique (Col-4, Ln 51- Col-5, Ln 5; Col-5, Ln 45-Col-6, Ln 10; Col- 14, Ln 30-40; Col-15, Ln 12-43). All the limitations of the instant claims are met.

The reference is anticipatory.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 15 and 22-23 are rejected under 35 U.S.C. 103(a) as being obvious over Poetsch et al (US 5,196,140) in view of either Koden (US 5,271,867) or Mercer et al (US 5,179,188).

The use of phrase "for depositing an active material on to a surface" in the claims have not been treated with patentability. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See In re Casey, 152 USPQ 235 (CCPA 1967) and In re Otto, 136 USPQ 458, 459 (CCPA 1963).

Poetsch et al teach an electro-optical liquid crystal display (LCD) element comprising a dielectric comprising a perfluoro compound such as 4-methyl-1-(1,1,2,2-tetrafluroethoxy)-benzene and at least two liquid-crystalline components (active material) (Abstract, Col-17, Ln 39-48 ; Col-20, Ex-7; C-21, Ex-9).). The prior art further teaches the perfluoro compounds with the formula R1-A2-R2 (Formula 1b), wherein R1 and R2 are C2-C12 alkyl or alkoxy groups, and at least one of R1 and R2 being a C1-C15 perfluoro-alkyl and A2 being a phenyl group in the composition (Col-2, Ln 46-Col-4, Ln 6; Col-5, Ln 27-Col-8, Ln 68; Col-17, Ln 39-48), and its advantages with clear point of the liquid crystal display without the need of viscosity modifiers (Col-2, Ln 10-23).

The prior art fails to disclose the coating the compositions from solutions containing liquid per claims 15 and 22-23, and the specific perfluoro compounds in the LCD composition per claim 22.

In the analogous art, Koden teaches forming organic layers in an LCD device by spin coating compositions containing a fluorophenyl compound (Abstract, Cl-12, Ln 47-48; Cl-23, Ln 6-43), wherein the dispersion of the active components in a solvent would be obvious.

In the related art Mercer teaches coating fluorinated aromatic ether components containing additives such as pigments by solution coating (Abstract, Cl-8, Ln 38-63).

It would have been obvious to a person of ordinary skilled in the art to coat the LCD components of Poetsch et al by spin coating taught by Koden et al by incorporating a solvent/s in the film forming composition as a choice of design of coating process with reasonable expectation of success, to benefit from speed and simplicity of spin coating technique because the teachings are in the analogous art and common at the time of disclosure of the invention by the applicants. Mercer teaches the addition of various solvents to coat perfluoro ethers containing active materials over a surface.

Further, It would be obvious to a person of ordinary skill in the art to optimize the LCD element of the prior art by substituting the alkyl group in the perfluoro containing dielectric composition with an alkoxy group to benefit from better functionality of the LCD element with improved clear point, because the prior art teaches that the LCD dielectrics could be modified to suit the application needs by altering dielectric anisotropy or viscosity (Col-16, Ln 31-55). The LCD dielectric composition containing compounds taught by the prior art containing the specific alkoxy groups show structural similarity with the instant claimed composition, and have similar utility as electro-optic compounds, wherein the composition in instant claim 22 is prima facie obvious over the compositions of Poetsch.

***Response to Arguments***

Applicants arguments filed with the amendments on 03/20/2007 have been fully considered. Applicant's argument that the prior art by Babb et al Reference (US 5,730,922) does not teach the liquid composition is not persuasive because, the prior art teaches coating from solutions. Applicants are correct in that Poetsch Reference (US 5,196,140) is silent about the use of liquid composition and overcomes the rejections over this reference in the last office action.

For the reasons set forth above, the instant claimed compositions fail to patentably distinguish over the prior art compositions.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on 8.30-6.00 Mon-Thu, 8.30-5.00 Alt Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on 571-272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KMV
May 28, 2007.

Douglas M'Ginty
Supervisory Patent Examiner
AU 1751